

# Micro- Encapsulators/ Immobilisators/ Granulators



## Nisco Engineering AG

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### Application and Technology

The Nisco encapsulation/immobilisation systems find potential applications in the fields of:

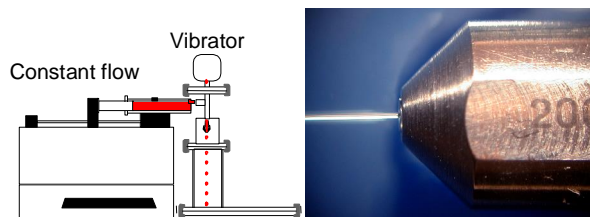
- **Biotechnology** (immobilisation of enzymes, catalysator and microorganisms for biotechnological production processes, e.g. bioconversion, protein production)
- **Tissue engineering** (immune system hiding of allo- and xenogeneic pancreatic islet cell transplants, liver cells for detoxification using extracorporeal liver assisting device)
- **Food technology** (immobilisation of enzymes and microorganisms for food processing)
- **Environmental applications** (waste-water and soil treatment with immobilised microorganisms)
- **Drug formulation** (controlled drug release, oral vaccination, probiotics delivery)
- **Cosmetics and hygiene:** encapsulation of ingredients (slow or controlled release)
- **Agrar** (artificial seed production, cryoprotection, biological pesticide production)

The developer and manufacturer of these sophisticated microbead generators, Nisco Engineering Inc., offers complete standard as well as tailor-made systems for your research or microbead production plant.

Microencapsulators of Nisco Engineering Inc. utilise one of the following technologies or a combination thereof:

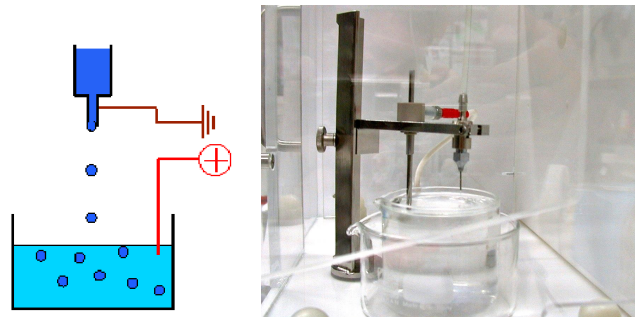
### Laminar-jet-break-up

(electromagnet or piezo-vibrated)

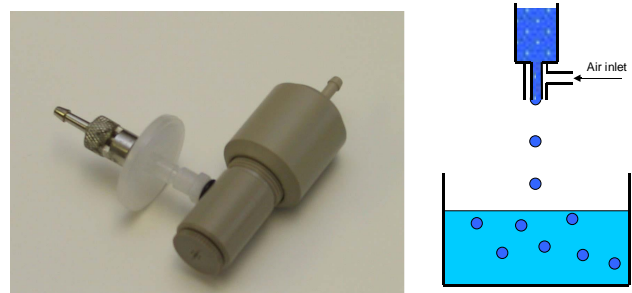


A perfect, yet constant flow and vibration results into monodisperse drops.

### High-voltage-driven



### Coaxial-air-driven



Microencapsulators of Nisco Engineering Inc. are designed modularly, allowing to adapt the equipment to your changing needs and are optimised for the production of:

- monodisperse microbeads
- from gram to kg-scale
- from 20 micrometers to 2 mm in diameter
- also under sterile, cGMP and FDA conform conditions
- in a reliable and easy to handle process.